

---

# Washington Climate Change Challenge

## Climate Advisory Team

---

### **Summary of Sixth Meeting**

Thursday, November 15, 9:00 a.m. – 5:00 p.m.

Friday, November 16, 8:00 a.m. – 3:30 p.m.

Grand Holiday Ballroom, Olympia, WA

Meeting documents are available on the Washington Climate Change website:

[www.ecy.wa.gov/climatechange/cat\\_documents.htm](http://www.ecy.wa.gov/climatechange/cat_documents.htm)

### **Overview of the Washington Climate Change Challenge**

---

Governor Chris Gregoire declared Washington's commitment to address climate change on February 7, 2007, by signing Executive Order No. 07-02. The Executive Order establishes goals for reducing greenhouse gas emissions (GHGs), increasing clean energy jobs, and reducing expenditures on imported fuel. It also specifies objectives for preparing for climate change impacts, coordinating regionally and nationally, and advancing public outreach and awareness. The Executive Order directs the Washington Departments of Ecology (Ecology) and Department of Community, Trade and Economic Development (CTED) to lead the Washington Climate Change Challenge, a process that will engage business, community and environmental leaders in considering the full range of policies and strategies that may be adopted to achieve the goals established by Governor Gregoire.

Ecology and CTED have formed the Washington Climate Advisory Team (CAT) to assist with the development of specific action-oriented recommendations for climate change mitigation and GHG reduction policies for Washington. This broad-based group of Washington leaders is charged with developing a comprehensive set of state-level policy recommendations to deliver to Ecology and CTED by January 2008.

### **The Makeup of the Climate Advisory Team**

---

The Climate Advisory Team includes: co-chairs Jay Manning (Ecology) and Juli Wilkerson (CTED); and members Rod Brown (Washington Environmental Council), Reverend Alexander J. Brunett (Archbishop of Seattle), Vicky Carwein (WSU Tri Cities), Senator Jerome Delvin (Washington State Legislature, ex-officio), Representative Doug Ericksen (Washington State Legislature, ex-officio), KC Golden (Climate Solutions), Dennis Hession (City of Spokane), Sara Kendall (Weyerhaeuser), Bill Kidd (BP), Mike Kreidler (Office of the Insurance Commissioner), Chad Kruger (WSU Center for Sustaining Agriculture & Natural Resources), Representative Kelly Linville (Washington State Legislature, ex-officio), Jim Lopez (King County), Dennis McLerran (Puget Sound Clean Air Agency), Bill Messenger (Washington State Labor Council), Steve Nicholas (City of Seattle), Larry Paulson (Port of Vancouver), Senator Craig Pridemore (Washington State Legislature, ex-officio), Michael Rawding (Microsoft), Aaron Reardon (Snohomish County), Steve Reynolds (Puget Sound Energy), Rich Riazzi (Chelan County)

PUD), Mike Rousseau (Alcoa), Doug Sutherland (Department of Natural Resources), Kirk Thomson (Boeing), Terry Uhling (Simplot), and Terry Williams (Tulalip Tribe).

Each caucus of the House and the Senate has named liaisons to the CAT. Representative Doug Ericksen and Senator Jerome Delvin have been appointed to represent the Republican Caucus, and Representative Kelli Linville and Senator Craig Pridemore have been appointed to represent the Democratic Caucus.

Project management for the CAT is being provided by Janice Adair (Ecology) and Tony Usibelli (CTED).

## **Meeting Objectives and Attendance**

---

The Climate Advisory Team (CAT) held its sixth meeting on November 15 and 16, 2007, at the Grand Holiday Ballroom in Olympia, WA. The meeting was open to the public.

All members were present at the sixth meeting except Rev. Alexander J. Brunett (Sister Sharon Park, alternate), Mike Kreidler (Chris Carlson, alternate), Kelli Linville (Maralyn Chase, alternate), Dennis McLarren, Michael Rawding, Aaron Reardon (Sego Jackson, alternate), Steve Reynolds, and Kirk Thomson. Members of the public and interested stakeholders in attendance included private citizens and representatives from the Technical Working Groups, Preparation and Adaptation Working Groups, Washington Environmental Council, Climate Solutions, City of Tacoma, WSU Energy Program, Snohomish County, Weyerhaeuser, Boeing, Washington Department of Fish and Wildlife, The League of Women Voters of Washington, Cascadia, Bonneville Power Administration, Quinault Nation, Evergreen State College, City of Olympia, Northwest Food Processors, Avista Corporation, Landau Associates, Sierra Club, WSDOT, Olympia Climate Action Group, The Nature Conservancy, Environment Washington, Puget Sound Energy, Department of Natural Resources, Alcoa, Pacific Ethanol, Clallam County, WASHPIRG, and Cascade Climate Network.

There were six objectives for the meeting:

1. Review and affirm the remaining TWG policy options (as the CAT did for initial policy options that were complete and ready for its consideration at the October 4 meeting).
2. Continue to establish a Comprehensive Climate Approach for Washington by identifying, discussing, and refining key elements of the Approach.
3. Discuss an approach for identifying key considerations of all options (e.g. feasibility concerns, implementation uncertainty, quantification issues, major co-benefits, etc.) and to identify key cross-cutting issues in preparation for the December 4-5 meeting.
4. Review and affirm the updated inventory and forecast, and the proposed methodological approach for the fuels and jobs goals analysis.
5. Review preliminary outcomes from the PAWG process and efforts to engage the public.
6. Discuss the process for refining the collective recommendations of the CAT and preparing the CAT report.

## **Welcome**

---

Jay Manning thanked the CAT for its work thus far and proposed that January will not be the end of the CAT's work. While the CAT has important work to complete by January, more work will be required beginning in April of 2008. Some iteration of the CAT will therefore be asked to continue working through December 2008 to further translate the recommendations from this first phase of work into specific policy. The other important work around climate change that will continue in 2008 is the Western Regional Climate Action Initiative (WCI). WCI will deliver its recommendations for a cap-and-trade system in August 2008, which will presumably become an important component of the 2009 legislative package. This proposal for continuing the work of the CAT is an attempt to balance making the right decisions and being intelligent with not taking too much time to deliberate. All members of the CAT who are interested are invited to continue working in 2008. The CAT table will also be expanded to include additional sectors and interests. The process for 2008 has not yet been decided; Jay invited CAT member ideas.

## **CAT Review of Remaining Technical Working Group Policy Options**

---

At its October 4 meeting, the CAT reviewed an initial set of ten Technical Working Group (TWG) policy options that were complete and ready for review. The TWGs have completed their analyses of all options, which the CAT will review and, as appropriate, affirm at this meeting. The CAT will also identify any TWG options that rise to the top as potential candidates for legislative action in 2008. The CAT discussed the approach and expectations for CAT review and decision-making for remaining TWG policy options. The CAT discussed a desire to review the TWG options at a level of detail sufficient to inform its discussion, but to focus primarily on the implementation considerations and developing a broad strategic approach.

The Center for Climate Strategies (CCS) and Ross & Associates created a matrix to summarize and organize the forty-five policy options developed by the TWGs. The matrix includes available information from the TWGs, such as costs per ton and anticipated GHG emissions reductions for the various options that could be quantified. The matrix is a tool to support CAT member review of the suite of options as they discuss the overall strategy and develop a directional framework. The directional framework will incorporate both the sector-specific policies developed by the TWGs as well as broader economy-wide elements that the CAT has discussed.

The TWGs have analyzed anticipated GHG savings and costs/cost savings for strategies which could be quantified. The TWGs also considered additional criteria, such as potential contributions to longer-term GHG reduction goals, job creation, and reduction of imported fuel. Each TWG will meet once more following the CAT meeting to make any remaining adjustments to the analysis that the CAT might request. Cost effectiveness was calculated by dividing net present value by cumulative emissions from present day through 2020, and includes direct cost savings, but does not include externalities such as social and environmental benefits.

## **Energy Supply TWG Policy Options**

---

Alison Bailie of CCS, facilitator for the Energy Supply TWG, provided an overview of the remaining Energy Supply TWG options. CAT members provided comments and suggestions:

#### *ES-1: Grid-based Renewable Energy Incentives and/or Barrier Removal*

- Given concern that avoided costs might be higher than indicated by the analysis, the CAT requested that the recommendations from the Washington Utilities and Transportation Commission be reviewed to ensure that the policies and procedures for setting avoided costs reflect market realities.

#### *ES-3: Efficiency Improvements at Existing Renewable and Power Plants*

- Emissions savings are not currently quantified for this option because the majority of information at existing plants is proprietary. The Washington Power and Planning Council includes this data in its carbon footprint, but the TWG did not want to include those numbers because they also include Snake River Dam removal. The CAT discussed that the purpose of the analysis is to provide a sense of the overall magnitude associated with the policy options, and that any controversy associated with the numbers can be incorporated separately into any ranking or scoring of the options. The CAT requested that the estimated range be included, and noted that the data can be replaced with new numbers as they become available.

#### *ES-5: CCSR (including pre and post-combustion) Incentives, Requirements and/or Enabling Policies plus R&D*

- The CAT discussed how best to communicate the potentially large magnitude of emissions reductions possible under this strategy, the assumptions for investments in research and development, and the technology uncertainty, while not duplicating actions being taken under SB 6001 and rule-making.

#### *ES-6: Transmission System Capacity, Access, Efficiency, and Smart Grid*

- The TWG did not look at transmission authority approaches in other states. Several states have created finance authorities for transmission systems. New Mexico has a finance authority specifically for renewable energy.
- There is potential for tribes to actively participate in developing these systems.

### **Agriculture TWG Policy Options Review and Status**

---

Katie Bickel of CCS, facilitator for the Agriculture TWG, gave an overview of the Agriculture TWG policy options. CAT members provided comments and suggestions:

#### *AW-4: Agricultural Carbon Management*

- Carbon stored in durable wood products is also discussed in the Forestry TWG.

#### *AW-5: Agricultural Nutrient Management*

- The energy savings of AW-4 and AW-5 are captured in AW-6.

#### *AW-6: Reductions in On-Farm Energy Use and Improvements in Energy Efficiency*

- There are large efficiencies to be generated in the agricultural sector from the use of GPS systems and precision planting, and additional environmental and economic benefits to be gained from the use of digesters. There are also on-farm benefits to these technologies and practices.

#### *AW-7: Preservation of Open Space/Agricultural Land*

- The national estimate of land anticipated to come out of the Conservation Reserve Program based on higher commodity values is substantial. There is some uncertainty, particularly for eastern Washington, about how much land is set-aside and currently functioning as carbon sinks. This land could become an emissions source if it comes out of set-aside status and back into production under systems that release carbon.

#### *AW-8: Support for an Integrated Regional Food System*

- This option has not been quantified because its potential impacts cut across on-farm and off-farm emissions. One of the first goals of the option would be to get a sense of the GHG emissions reduction potential from the perspective of an integrated regional food system.

### **Forestry TWG Policy Options Review and Status**

---

Katie Bickel of CCS, facilitator for the Forestry TWG, gave an overview of the Forestry TWG policy options. CAT members provided comments and suggestions:

#### *F-1: Improved Forest Health*

- Quantification would help add GHG emissions benefits to a policy which makes sense in terms of forest health and fire prevention. However, doing so is tricky because where some see carbon stored in forests, others see a buildup of fuel. The policy is quantified for potential net cost savings realized from avoiding the economic losses of fires and fire fighting expenses.
- Acreage potentials are based on condition class, not accessibility. The amount of forest land that is accessible will be an issue when considering the potential to remove biofuels from forests.

#### *F-2: Reduced Conversion to Nonforest Cover*

- Bullets three and four under the implementation mechanism for this option are connected, and should be combined into a single paragraph. Bullet four, in particular, should explicitly state that it would operate within a regional cap-and-trade system.

#### *F-3: Enhanced Carbon Sequestration in Forests*

- From most perspectives, a fully mature forest provides the most environmental benefits (water quality, habitat, etc.). For carbon sequestration, however the IPCC's Fourth Assessment states that maximum carbon savings are gained from sustainable forest management that produces annual wood products. The same dynamic is observed with active soil management.
- The Forestry TWG assumed that forests are being managed in compliance with State laws, and are not implying a shift in landowner objectives or changing those as a prerequisite.
- On page twenty four, the last bullet under the list at the top of the page suggests an implementation design option of widening forestry riparian buffers, which is a regulatory issue. The statement will be clarified to better express the intent of voluntary or incentivized restoration or reforestation in riparian areas.
- Several of the TWG policy options include discussion of various specific green building standards. Since green building could encompass any credible third party standard that exists now or in the future, green building should be defined generically and consistently in the final report.

- It will be important to clarify how forest health and restoration can contribute towards carbon storage and other landscape benefits. F-3 includes the need for Washington to actively participate in developing protocols and further define the role of forests in any regional carbon trading system.

*F-4: Enhanced Carbon Sequestration in Harvested Wood Products*

- The reality of developing a market for large logs is difficult because of a lack of infrastructure. When a large amount of harvesting on national forest lands (where larger diameter logs are found) was stopped fifteen years ago, many of the sawmills and other processing areas that could handle large diameter wood went out of business. It is important that the option consider the entire value-chain, and address the capacity to handle and process large-diameter wood to make the project viable.

*F-5: Expanded Use of Wood Products for Building Materials*

- The CAT had no comments on this option.

*F-6: Expanded Use of Biomass Feedstocks for Electricity, Heat and Steam Production*

- The analysis for this option followed ES-7. Revenue impacts have not yet been analyzed.

*F-7: Improved Commercialization of Advanced Lignocellulosic Processes*

- The distribution of ethanol from the refinery to fueling stations should be noted as a significant issue.

*F-8: Urban and Community Forests*

- A State grant program might be appropriate for this option.
- An additional benefit of this option for other sectors is increasing the desirability of urban living.

## **Residential, Commercial and Industrial TWG Policy Options Review and Status**

---

David von Hippel of CCS, facilitator for the Residential, Commercial and Industrial TWG, gave an overview of the RCI TWG policy options. CAT members provided comments and suggestions:

*RCI-3: Promotion and Incentives for Improved Community Planning and Improved Design and Construction in the Private and Non-State Public Sectors*

- This option includes regulatory measures along with incentives, such as building code enhancements and requirements for State buildings.

*RCI-4: Energy Efficiency Improvement in Existing Buildings, with Emphasis on Building Operations*

- The CAT had no comments on this option.

*RCI-9: Identification of GHG Emissions Impacts and Measures to Avoid, Minimize, or Mitigate them for Projects Requiring Government Review, and in Designing Government Rules and Regulations*

- Elements of this option relate to SEPA and GMA, which the CAT discussed in greater detail during a subsequent discussion later in the meeting.

- The bullet point on emissions from new projects will be clarified to note that emissions reductions will be based on what they otherwise would have been.
- The policy option should be clarified to note that avoidance is preferred over mitigation and offset. When new projects are undertaken, it is important to use the best available equipment to achieve the lowest emissions possible.

*RCI-10: More Stringent Appliance/Equipment/Lighting Efficiency Standards, and Appliance and Lighting Product Recycling and Design*

- Many of the strategies task CTED and Ecology without providing resources. The CAT should make it clear to the Governor and Legislature that these agencies need resources to accomplish their assigned tasks.

*RCI-11: Policies and/or Programs Specifically Targeting Non-energy GHG Emissions*

- The CAT should consider that there may not be a viable replacement technology for SF6, which is required in breakers for high transmission lines. Use of SF6 is increasing as it is considered the most efficient way to break a line with high voltage.
- Puget Sound Clean Air Agency (PSCAA) has done work at the local level on GGBF cement, and the challenge that has arisen is construction specifications for public works projects, since GGBF is a different product with different specifications. PSCAA understands GGBF may be stronger, better, and cheaper and is working with the Port of Seattle to allow its use as an alternate. On the process emissions side, PSCAA is working with LaFarge Industries on slag blends to reduce the amount of fuel required to produce cement.
- This issue needs to fall under a cap-and-trade agreement.

## **Transportation TWG Policy Options**

*(The CAT discussed the Transportation TWG options on November 16, but the summary of this discussion is included here for consistency in the notes.)*

Jeff Ang-Olson of CCS, facilitator for the Transportation TWG, provided an overview of the remaining Transportation TWG options. CAT members provided comments and suggestions:

*T-0: New Funding Mechanisms*

- The CAT had no comments on this option.

*T-1: Transit, Ridesharing, and Commuter Choice Programs*

- T-1 and T-4 overlap, but have not been combined since the methodological issues are not consistent.

*T-2: State, Regional, and Local VMT and GHG Reduction Goals and Standards*

- The TWG recommends that the rate of vehicle miles travelled (VMT) per capita GHG reductions be set faster than population growth in order to meet the absolute reduction targets.

*T-3: Transportation Pricing*

- The CAT had no comments on this option..

*T-4: Promote Compact and Transit-Oriented Development*

- The CAT had no comments on this option.

*T-5: Quantification of GHG Impacts of Transportation Plans, Programs, and Projects*

- The CAT had no comments on this option.

*T-6: Improvements to Freight Railroads and Intercity Passenger Railroads*

- The CAT had no comments on this option.

*T-7: Diesel Engine Emission Reductions and Fuel Efficiency Improvements*

- The CAT had no comments on this option.

*T-8: Local Transportation Financing Tools and Bicycle and Pedestrian Infrastructure Improvements*

- The CAT had no comments on this option.

*T-9: Transportation System Management*

- The CAT had no comments on this option.

*T-12: Zero Emission Vehicle Standard and Low-GHG Refrigerants*

- The CAT had no comments on this option.

The CAT discussed the transportation sector with respect to its role in the overall goal of reducing GHG emissions. This sector is one of the most challenging, but also the largest source of current and future GHG emissions in Washington State. Washington's hydro dependency makes transportation a higher relative contributor to the carbon footprint, and is therefore a significant source of potential GHG emissions reductions for meeting the 2020 reductions goals.

The CAT discussed four prongs to the transportation sector strategy: reducing VMT, utilizing hydrocarbons more efficiently, replacing carbon with alternative fuels as a source of energy, and using transportation infrastructure more efficiently. One of the most significant things that the CAT can do to make strong policy statements that express the urgency about doing as much as possible to ensure the transportation sector's contribution to solutions. Technology and fuel improvements will not necessarily keep pace with VMT increases. Given the current political climate around transportation, the CAT needs to challenge itself to come up with creative solutions. The technology side is clear, in that people will purchase cleaner cars and fuels, but the more difficult task is finding ways to get people out of their cars. There is a need for a paradigm shift. The CAT noted that the priority needs to be on reducing carbon, and moving people and goods rather than vehicles.

Some of the Transportation TWG options involve significant capital investments which may take up to fifty years or more before the full benefits are seen. It may be beneficial to demonstrate the cost effectiveness over a longer period of time than 2020 for some targeted options in order not to understate the cost effectiveness. In addition, freight mobility is a significant and complex issue that should not be forgotten in this process. Container volumes are predicted to triple by 2020, and freight on rail will double in the same time frame. At issue is how to effectively handle rail system improvements. Currently Washington's ports are 70% rail dependent.

## Discussion of the Comprehensive Climate Approach

---

The CAT continued to discuss the building blocks of the Comprehensive Climate Approach for Washington. Both individual strategies and broader economy-wide ‘signals’ will be needed for the emission reduction goals to be achieved.

There are three potential perspectives this Approach might encompass:

1. The CAT may have specific recommendations it wants to make, such as whether or not it believes the State should move toward emissions reporting.
2. The CAT may have general statements that it can collectively voice to powerful effect about the path that the State of Washington could pursue, such as directional observations about where the State is headed with WCI.
3. The CAT has the opportunity to speak to a large portion of the populace about the reality of climate change, the scope of the challenge, the likely impacts, and the decisions the State needs to make to deal with them. The CAT can think about what to say to the citizens who will have to spend money and change their behavior over the next twenty or more years in order for the climate change challenge to be addressed.

The CAT discussed the themes and observations described in the memo from Ross & Associates distributed in advance of the meeting. The CAT’s directional guidance and recommendations might include the suite of sector-specific strategies; directional recommendations about the use of market mechanisms as instruments to help ensure that emissions reductions goals are achieved; descriptions of the functions government should fulfill as the Approach is institutionalized and implemented over time; identification of tools, resources and authorities needed to implement and perform these functions; and explanations of some of the substantive economic opportunities within Washington’s economy that are enhanced by this Approach.

An Approach that is comprehensive is important in order to put in place the legal, financial, and technical infrastructure to move forward, to ensure progress with the sector-specific policies, and to reach the long-term goals. A fundamental issue with climate change is that society at large is the pollution source, and therefore all segment of society need to be involved in the solution. Some elements of the solution will require action sooner than others, such as reporting, but it is important to reinforce that while there may be early action to hit at low-hanging fruit, ultimately, this is a comprehensive task and all of society has to be part of the solution.

While establishing a price on the release of carbon is important, it will also be complex to implement economy-wide. It is important to consider what can be done until a carbon-pricing mechanism is put in place. The CAT will consider what regulatory mechanisms and other strategies, at least in the near term, can be applied while the economy adjusts.

Several climate change impacts are specific to tribal communities. The focus for tribes are the direct impacts of climate change to plants, animals, and fish, such as species shifts and low abundance, because tribes will be directly affected by these impacts. Like other tribes, the twenty seven tribes in Washington are facing cultural extinction due to population pressure, land use, and climate change.

Preparation and adaption are also a major area of focus where directional statements would greatly benefit communities directly at risk, followed up by real work and analysis over the coming year.

The CAT discussed regional and national developments, proposals for the 2008 Legislative session, and other key elements of the Comprehensive Climate Approach that have emerged in order to further articulate and refine the CAT's guidance and recommendations.

### **Update on Regional and National Efforts**

Janice Adair (Ecology) provide an update on Washington's involvement with the Western Regional Climate Action Initiative (WCI) and The Climate Registry (TCR).

WCI has formed five subcommittees to examine the details of different elements around cap-and-trade. The subcommittees have identified design questions, and are requesting stakeholder input on topics such as which sectors to cover, price signals, and points of regulation. By May 2008, the WCI partners intend to have made preliminary decisions about the key design elements. In July, WCI will have a final draft, and by August 2008, the design recommendations for a regional cap-and-trade program will be released. Ecology and CTED will work with stakeholders on implementation issues, with the goal of submitting implementation requirements to the Governor and the Legislature in December 2008.

Thirty-nine U.S. States, four Canadian provinces (with all thirteen committed to join), three American Indian Tribes, and the Mexican State of Sonora have joined TCR. TCR is looking at how to match reporting with WCI. Comments on the draft General Reporting Protocol are due November 30. The partners are now seeking voluntary reporters.

### **The State Environmental Policy Act (SEPA) and Climate Change**

Jay Manning provided a summary of SEPA and its relationship to climate change. SEPA has been in existence since 1970, and requires that State and local agencies consider the likely environmental consequences of a proposal before approving or denying the proposal, such as constructing a building, adopting a program, or authorizing a project or program. SEPA begins with a basic environmental checklist in order to make a threshold determination. If the action is large and complicated with lots of impacts, an EIS may be required. If the action is small enough, it may result in a declaration of non-significance. SEPA requires identifying and authorizing mitigation based on the discretion of the administering agency.

Climate change is already identified as an "element of the environment" that must be assessed for impact, but how to do that is not specified. SEPA can be used as a tool to get at a breadth of activities to mitigate climate change impacts. In January, Ecology intends to send a letter to State and local governmental entities clarifying the SEPA requirements to identify and analyze climate change impacts, sharing science for quantifying emissions, and sharing existing approaches to mitigation from other states. The next step will be for Ecology to begin the process of amending the SEPA rules, and developing state guidance on impact analysis and identifying effective mitigation.

The CAT discussed the importance of ensuring that the process is efficient and effective in order to get projects moved through in a way that makes sense and respects the goal of reducing emissions. Since the majority of projects fall into the medium category of mitigated determination of non-significance, giving some guidance on mitigating below this threshold will be important for climate benefits.

## **Emissions Reporting**

Janice Adair distributed and summarized a draft GHG emissions reporting bill. Ensuring emissions releases and reductions are measured is critical to any GHG reduction program, regardless of policy instrument. Required emissions reporting will be needed as a component of any cap-and-trade program, and will be critical if there is to be credit given for early voluntary actions.

Ecology has the general authority to require reporting, but it is permissive, not directive. Therefore, Ecology is working with stakeholders on drafting legislation for the 2008 Legislature to mandate GHG emissions reporting. The bill as currently drafted requires reporting by entities that emit 25,000 metric tons of GHG or more per year, or are responsible for a motor vehicle operation that emits 2,500 metric tons of GHG annually. As defined by the bill, direct emissions are owned or controlled by the person required to report, including stationary combustion emissions, mobile combustion emissions, process emissions, fugitive emissions, and all indirect emissions associated with the purchase of electricity, heating, cooling or steam.

The bill allows Ecology to lower the reporting threshold over time, and also allows for learning over time and consistency across the region. The bill gives Ecology the authority to exempt persons or classes of persons if emissions reporting is infeasible (e.g. interstate commercial airlines). Reporting starts in 2010 on 2009 emissions and Ecology will set a schedule for when reporting is due based on the complexity for assembling records and the timing for completing verification. Emitters will report either to Ecology or a GHG registry, such as The Climate Registry. GHG emissions will not be reported to local air agencies in order to allow for the management of a state-wide cap, but reported emissions will be shared with them.

## **Financing**

The CAT turned to a general discussion of how the recommendations might be financed, and any direction the CAT might want to give about approaches for providing appropriate funding support for incentives to stimulate behavioral changes.

The CAT discussed that appropriate staffing is important. Many of the options require more analysis and design consideration as to whether they should be regulatory or incentive based. The programmatic infrastructure needs to be in place in order to take action in Washington as well as to protect Washington's interests regionally and nationally. Staff members should not be taken from other important activities to fill climate change positions.

The CAT also noted that money that is spent must be aligned with the goals. The State can help by enumerating what resources are currently available in order to focus priorities. Ultimately, the residents of Washington will need to be committed to funding the programs, since any additional costs to fund climate change activities will have to be supported by the public.

The biggest incentive the CAT can create is to make carbon pricing real, and then businesses will start investing to meet its goals. The role of government can be limited to the short term. Over the next 5 years, CTED, Ecology, and local governments can prepare Washington to enter the market, and then innovation and the private sector can take over. Because a market-based approach will take time to develop and will not reach all sectors, there may still be a limited role for the State to either regulate or send price signals through taxes and fees. The State will also have to spend money on workforce development as people transition into the green economy.

## **Preparing the Workforce**

The CAT discussed what recommendations to make about preparing Washington's workforce to participate in the emerging global green economy. One important aspect to an effective workforce transition will be improving education throughout the K-12 system. Math and science, in particular, are crucial skills for electricians and carpenters, and will be important in the green design industry as well. Employees for the trades have diminished over the past few years, and standards for green builders have not been established. Allocating money for K-12, apprenticeship programs, and community colleges is a critical component of workforce training. Building up the weak link connection between technical colleges and K-12 schools as well as promoting green jobs in community education will also be critical.

Another key step will be examining the TWG recommendations and identifying where new markets and jobs may arise. Attracting more energy technology development and manufacturing to the State will enable more jobs to be generated in Washington, and jobs in existing Washington clean energy industries can be enhanced by increasing the regional and international demand for WA products. The twin challenge of an aging workforce and the need for training workers for new clean energy industries could be addressed simultaneously with a robust infrastructure for workforce training programs.

### **Further Consideration of the Role of Markets**

The CAT previously stated that market-based approaches should be used wherever possible. The CAT continued its discussion on the role of markets in supporting efforts to transform the economy. There is a significant opportunity to develop the market for carbon reduction in Washington, and an important leadership statement can be made about the direction for the institutional infrastructure that will support this transformation and support the economy in finding innovative solutions. Key components of market-based approaches include stimulating and supporting the investments, business practices and behavioral changes needed to reduce GHG emissions; avoiding artificial financial windfalls within and across sectors and between producers and consumers; being performance-based; and supporting technology through R&D incentives and innovation rather than picking technology winners and losers.

Government should not control the market and dictate how it evolves, but it will be necessary for government to use tools and programs to stimulate the market. There is a role for government to drive market efficiencies more quickly than might otherwise occur, without overly interfering in the development of the market and technologies. The low-carbon fuel standard is a good example of how government can set a standard and let the market determine a solution. If the goal is to reduce carbon, the government can set clear price signals, and let the market determine the optimal solution.

In using market-based approaches, Washington should play to its strengths. A plan recently announced in the Midwest includes a focus on biofuels, clean coal, biosequestration, and advanced efficiency manufacturing, all Midwestern strengths. Examples of where Washington can play to its strengths include solar silicon manufacturing, bioengineering, and applying information technology to the power grid.

## **Update and Discussion of the Fuels and Jobs Goals Analysis**

---

Michael Lazarus of CCS updated the CAT on the analysis of the fuel and jobs goals.

The Executive Order set the following fuels goal: "By 2020, reduce expenditures by 20% on fuel imported into the State by developing Washington resources and supporting efficient energy use." CCS has been working with Ecology and CTED to further define the goal. "Reduce" has been interpreted to mean reduce relative to expenditures that would have occurred absent policies and actions implemented in relation to this Executive Order; "expenditures" means end-consumer spending; and "fuel" means coal, petroleum, natural gas and biomass fuels, except such fuels consumed in Washington State for the production of electricity. It is difficult to quantify the amount spent on imported fuel, especially given the regional market for electricity, but the definitions have been finalized and CCS is now in the process of analyzing the suite of TWG options with respect to this goal of reducing expenditures on imported fuels.

The Executive Order set the following jobs goal: "By 2020, increase the number of clean energy sector jobs to 25,000 from the 8,400 jobs we had in 2004." CTED studies have shown that there were around 4,000 jobs in fourteen subsectors of the renewable energy sector in 1997. This grew to 8,000 jobs in 2004 in ten sub-industries in renewable energy, "smart" energy, and energy efficiency. For consistency, the "clean energy sector" is being defined in this analysis using the definition found in the 2004 report. This definition does not include indirect jobs supporting these sub-industries, indirect jobs from the extra revenue created, nor direct jobs from many of the agriculture, forestry and transportation policy options. These jobs are important because they play to Washington's competitive strengths, and are important factors to consider when reviewing the various TWG options.

An integrated analysis on the fuels and jobs goals will be presented to the CAT in December.

## **Final Review of the Updated Inventory and Forecast**

---

Under SB 6001, Ecology is required to update Washington's 1990 emissions inventory and forecast by December, 2007. Ecology and CTED will then update it every two years. The 1990 inventory has been updated and released for public comment. The major change to this current version involves a load-based emissions value for the energy supply sector, and some minor changes in transportation and forestry sectors.

After discussions between CCS, Ecology, CTED, and the Northwest Power Planning Council, the final 1990 GHG emissions total has been established at 88 million metric tons. Given that returning to the 1990 number is the 2020 GHG emissions goal, Washington needs to achieve 34 million metric tons of GHG reductions below business as usual projections by 2020.

## **Update on the Preparation and Adaptation Working Groups (PAWGs)**

---

Janice Adair gave an update on the Preparation and Adaptation Working Groups (PAWGs). The PAWGs have been finalizing their priority recommendations, which include actions around emergency preparedness, development and enhancements to surveillance and notification systems, and integrating climate change issues into resource planning, including GMA and

SEPA. Final draft PAWG recommendations will be presented for public review and comment with the CAT recommendations in mid-December, and the PAWG recommendations will be included in the final Executive Order report.

## **Update on Education and Engagement**

---

Janice Adair gave an updated on the public education and engagement activities. Barb McGregor has reviewed the original TWG options, selected those that contain an education or engagement component, and created a matrix by sectors of potential actions that can be taken to connect people and organizations. Barb organized two summits in Spokane and Seattle, and brought together environmental educators and interested stakeholders from around the State. Nearly 50 people worked together to identify target audiences, potential avenues to reach audiences, current education opportunities, and gaps. A draft from that work has been distributed to the TWG and PAWG members for their review. CAT input is also welcome. Barb will finalize the recommendations for education and outreach, which will be available in December. Education and engagement recommendations will also be included in the final Executive Order report.

## **Potential 2008 Legislative Actions**

---

Jay Manning asked the CAT about potential recommendations for action in the 2008 Legislative Session. In addition to the GHG reporting bill and SEPA actions being proposed by Ecology and already discussed by the CAT, the State examined the TWG strategies to identify potential options for early action. State staff used the following criteria to select additional possible early actions: there is a high degree of certainty that the issue will be in play anyway; the recommendation can be achieved relatively easily; the system is already in place or it is needed in order to advance something else; and moving ahead now would avoid an immediate lost opportunity or take advantage of a targeted opportunity.

The five options identified and presented for purposes of discussion by the CAT include:

- Business energy tax credits (RCI-2)
- Combined heat and power (promote and remove barriers) (RCI-7)
- Manure digesters (AW-1)
- Plug in hybrids (accelerate and integrate use) (T-10)
- Carbon capture and storage (focus on requirements and enabling policies) (ES-5)

The CAT considered the notion of recommending options for action in the 2008 Legislative Session. Members discussed whether action should be proposed on options that will most likely take longer than a single legislative session to implement and therefore should be put forward as soon as possible, or whether action should be recommended on options that are 'low-hanging fruit' and will be potentially easier to implement. The CAT also noted that the Governor's office has indicated that the upcoming legislative session will be relatively conservative from a budget standpoint, and this may limit how many options can be considered. Another factor to consider is the overlap between the CAT recommendations and other proposals that the legislature is considering, such as efficiency standards for general purpose lighting, creating a preference for high efficiency lighting in State agencies, a solar energy bill, and regulations around small-scale power equipment, plastic grocery bags and water bottles.

CAT members will be asked to submit any ideas around priority recommendations for early action. At the December meeting, the CAT will discuss possible consensus recommendations.

## **Next Steps, Including Drafting the Final CAT Report**

---

The final interim CAT report will be part of a larger report that Ecology and CTED are preparing in response to the Executive Order. The CAT discussed that the report should make a strong statement and find two to three creative things that will push the envelope while at the same time connect with what is achievable. The report will be directional in nature, with some high level leadership statements by the entire CAT. An annotated outline of the final report will be provided to the CAT at the December meeting. Because of the timing with the remaining CAT meetings and the holidays, the CAT will see the first draft of the report at the same time that it is posted for public comment. The report will be available for public comment in mid-December through January, and the CAT will be briefed on the nature of public comments to consider while finalizing its report in January.

CAT members concluded by sharing insights based on the two-day discussions. Members reflected that transforming the current economy to a carbon-constrained economy is a massive undertaking and will require operating under a different set of rules. It will be important to have a strategic vision that guides the implementation process in order to achieve a comprehensive focus. The CAT complemented the TWGs for their remarkable work and thanked all the people who worked so hard and so enthusiastically. The CAT noted that its audience is ultimately the public of Washington who must approve the recommendations and begin to make the changes in behavior and choices that will determine success.

The CAT will have a homework assignment between this meeting and the December meeting in order to continue to identify and refine the collective wisdom and conviction of the members into a comprehensive set of directional recommendations.

## **Public Comment**

---

*Several members of the public in attendance provided comments to the CAT at the conclusion of the first day of the meeting:*

Ken Peachey, a Tacoma resident, urged boldness and visibility, and expressed hope that the CAT will overcome its fear of regulation. He urged the CAT towards immediacy and simplicity. A single initiative that would communicate urgency more clearly is a deliberate and staged reduction in State speed limits. Similar reductions in the early 1970s mobilized and informed the populace, and made that crisis real. Many people doubt that the CAT will act boldly and put this crisis before the people in a way that makes sense, and that involves them. Be bold, not politically correct.

Donna Ewing from the League of Women Voters commented that her primary reason for working on climate change since retiring 11 years ago is because the youngest members of her family will not reach her age until about 2060. She would like to think that the CAT's work will result in a lifestyle for her children and grandchildren that's similar to what we enjoy today.

Promoting a clean energy future is a step to meet that goal. On behalf of the League of Women Voters of Washington, she expressed thanks. She noted that identifying early actions that can be taken in the 2008 Legislative Session is important in order to advance renewable energy development like TWG option ES-7. Barrier removal and financial incentives for small-scale distributed systems like ES-2 is also vital. It is equally vital that the CAT develops a legally binding framework and schedule. Based on the latest IPCC report we have nine years to control emissions, which is not likely to happen without a legally binding schedule. Ms. Ewing urged the CAT to pay close attention to the natural characteristics of Washington, and make the State a leader for others to emulate.

Betsy Defrada of Rochester, Washington, commented that she was proud to live in a state with a strong approach to addressing climate change. She appreciates the work the CAT and TWGs have put forward. In order to meet emissions goals to make a significant difference, government must take a leadership role with strong standards and meaningful enforcement. Tax incentives for conservation and sustainable energy solutions should be included in the 2008 Legislative Session. Transportation is the biggest issue the State needs to address. The State should also utilize sustainable development and growing sustainable crops for biofuels, and pay attention to the entire life cycle of alternative fuels. Corn ethanol is not the answer, and cutting down forests does not make sense either. Research into cellulosic fuels is promising, and Ms. Defrada likes T-4.

Mayor Mark Foutch welcomed the CAT to Olympia. Since 1990 Olympia has been a pioneer in researching the effects of climate change and doing what it can to reduce its climate impacts. The city has taken many actions such as using biofuels in city vehicles, and creating recycling incentives for solid waste and utilities. It is important to have no unfunded mandates, and to recognize that cities have different make-ups and situations, and one size will not fit all. The Mayor is concerned with the impacts of climate change and how to adapt our communities to its impacts, especially sea level rise. Land use regulations are politically expensive, especially if seen as premature, and public works are expensive. Communities around the State need guidance similar to GMA for land use regulation and actions and assistance for adaptation.

Lisa Riener, a staff person for the Quinault Indian Nation, applauded the CAT for working on this difficult issue. She has been in contact with some members of the group and is disappointed that different tribes were not notified individually about the CAT. There is one distinguished tribal member on the CAT, but many tribes are interested and have many resources that should be taken into account. Tribes will be affected by climate change, especially tribes on the water who will be inundated by storm surges. Tribes want to be part of the conversation and the process. The notion of cutting down trees to save forests from forest fires is a concern. Tribes have large forest areas in Washington, and do not want to jump to any conclusions before a rule making occurs. With regards to GHG emissions reporting, EPA put into effect federal air rules for reservations in Region 10. When the CAT discussed GHG emissions reporting, it does not appear to have discussed how to deal with tribes on this issue. The bottom line is that there are lots of different pieces to this puzzle that need to be addressed, and Ms. Riener hopes that the tribes will be brought into the discussion.

Beth Doglio, a resident of Olympia, commented that she was testifying on behalf of her two young children. She urged the CAT and the Governor to take decisive action. Half of the problem in the State is transportation, especially how communities have been built. The State needs to start building smarter now, with denser communities that emit less GHG per capita. It is preferable to live more closely to neighbors than live underwater.

John Neumann, a resident of Olympia, thanked the CAT for working hard on these issues. He added that the public would like to join the CAT in arriving at solutions to climate change and excessive energy use. He suggested advertising the CAT's efforts more in public communications and newspapers. He urged not just more efficient transportation, but quicker transportation. He doubts that cutting down forests to solve climate change will help us. Involving more citizens will help us come to the answers more quickly.

*Several members of the public in attendance provided comments to the CAT at the conclusion of the second day of the meeting:*

Tim Hesterberg, a citizen, thanked the CAT members for their time and thought. He is a scientist and a father, a combination that scares him as he reads the scientific literature. He came to talk to the CAT about the science and convince the members to do something. He commented that there are solutions to global warming, such as wind technology, that are being produced in European countries and that could be an economic boon to rural areas. The last time the U.S. cared about energy was in 1970's, when Mr. Hesterberg had a summer job installing weather stripping. The energy sector provides jobs, saves money, and does not require advanced skills. Mr. Hesterberg's son is in high school and has learned to repair computers, and he would like to see more programs like the one in which his son participates in focused on retrofitting houses for energy efficiency. Markets are extremely important and should be made to work to the State's advantage. If the choice is between a subsidy for alternative fuel or a carbon tax, the carbon tax is preferable because it provides the same carbon benefit, brings in money, and takes cars off the road. Subsidies for driving need to be ended; some studies estimate the subsidies for driving total between \$3 and \$7 per gallon. One idea is to put signs on gas station saying how much the government is subsidizing driving. Another idea is to start with a carbon tax, and reduce other taxes such as sales and property taxes, and pay for government needs with a carbon tax instead.

Donna Albert, a civil engineer, came to the meeting as a grandmother. She commented that she found out about the seriousness of global warming when she attended an online American architect's course in February of 2007. The atmosphere requires living beings to keep it in equilibrium. Terry Williams' comments about the need to understand these complex systems struck a chord with her. She noted that although it is easier to measure what we understand and know, hopefully we will at least get an order of magnitude understanding of these complex systems. There is much talk about growth, and hopefully we will think about the assumptions that are created by our culture, and whether we have to grow to maintain our economy. This may be called into doubt as we are limited by the physical earth that we live on, and are reaching the end of our ability to grow within those physical limits. With the emphasis on biofuels, it is important to consider the market pressures on food sources, and the impacts on populations that may be more fragile. In some cases biofuel sources create more CO<sub>2</sub> than the use of fossil fuels. Ms. Albert hopes we will be smart about those things, and asked the CAT to think about everyone's grandchildren when making these decisions.

Donna Ewing commented that the CAT is being easy on Washington's citizens. The CAT is recommending cleaner fuels and more efficient power plants, but this will only keep people driving and living in huge homes. Carbon sequestration and cap-and-trade will be a small part of the solution. There are hard choices all of us need to make, and we will not do them on our own, even those of us who believe global warming is a major threat. The U.S. is the most spoiled nation in world. It will take leadership to change that, and right now, the only leadership

is in our State, and they are asking for your help, and so are we. The only way it looks possible is a tax on carbon, because it will force everyone to make choices.

Louisa Harding, citizen outreach director for Environment Washington, commented that she started doing this work because she believes global warming is the largest challenge faced by her generation. Ms. Harding is 23 years old. This is her future, and her future is in the CAT's hands. Environment Washington implores the CAT to take bold steps and urges the CAT to set binding carbon caps for Washington State. Environment Washington presented the CAT with 4,552 public comment cards supporting a binding carbon tax (comment cards accepted by Jay Manning and Juli Wilkerson).

Ken Peachey, of Tacoma, applauded the CAT for its hard work. Mr. Peachey commented that after 56 years of a healthy life, he had a heart attack that caught him by surprise. His wife helped him decipher the symptoms which were not what he expected. Mr. Peachey asked the CAT, how do you recognize symptoms that you don't understand? He said that in a sense, we are our planet's consciousness and the CAT is entrusted as the voice of that consciousness. The CAT is attempting social engineering, to tweak all the little things in the background that can move society, as a species, to where it wants to go. However, there is another way, which is to inform and mobilize your neighbors, represent the issue, and get out of the way. Mr. Peachey asked the CAT to help constituents understand the issue not an issue, but as a crisis. The public will follow, but the CAT must lead. When the CAT arrives at recommendations it is important to pare them down into three groups. First, what can be done now, tomorrow? We can change speed limits tomorrow. Set your cruise control to 60 on way home, and watch everyone go by. Second, what happens in 15 years? Third, consider the 30 – 50 year timeframe. This would make an imprint now and set a plan that the Legislature might be able to get its arms around. Remember that 70% of this economy is consumer driven. Let the consumers drive the economy, just show them the target.

Eve Johnson, a citizen of Olympia, commented that the Legislature is not who the CAT needs to convince, but it is citizens who drive cars and buy stuff and vote. The CAT has to do a better job of public relations. There is an education problem, and the public needs to know that this is a serious problem. Ms. Johnson belongs to the Washington State Historical Society, and she went to a presentation about the new archives building that will be built on the north slope of the campus. There will be 500 parking spaces in that new building. You have to start by getting rid of incentives for bad behavior, and making regulations for good behavior. We need laws and regulations to tell people how to behave in the best interest of their community.

Chelsea Papiez, representing Evergreen State College, commented that Evergreen is working hard to meet its 2020 goal to be carbon neutral. Evergreen has calculated its carbon index on campus, and transportation is the number one issue. She wants to make sure that transportation is addressed. A few of the themes have been mentioned previously by the CAT. She asked, how can we make people feel good about doing what they can? She noted that they are doing as much as they can with the commute trip reduction program, but there is only so much that students and staff can do to make those commitments.

Mike Doherty, Clallam County Commissioner, commented that in order to be effective, it is necessary to provide applied learning talking points for local governments and tribes to let people know what is going on, and to invite comments and support in implementation. Clallam County has shifted to biofuels and hybrids, and has a NASA grant to manage water at the east end of the county. Clallam County is trying to do things as a county, but there is a lot of pushback. Recently Mr. Doherty spoke with the most conservative business group in the county

about environmental problems. Most groups, when the facts are laid in front of them, realize that something must be done. Mr. Doherty urged that local governments be invited into the process early on.

Claire Lagerwey with the Cascade Climate Network shared what youth in this region are doing about climate change. 35 students from colleges in Washington and Oregon got together and wrote a declaration and set of principles of what they want to see met to combat the climate crisis. There is a network of 17 colleges as of October, and a huge movement is being created, getting people together and calling for change.

Jack Zeiger read an open letter from the Olympia Climate Action Group:

Dear Climate Advisory Team,

Climate change, as most of you in this room know, is likely the defining issue of our time. As Andy Revkin, science reporter for the NY Times, who has become known as the “*NY Times* Climate Change Guy,” and who spoke here in Olympia about 6 weeks ago, says that CC is “the perfect problem.” What he means by that is that it will profoundly affect our lifestyle and habitat and indeed, maybe even our ability to survive. The impacts will be complex and are uncertain. The need for action is urgent and critical. AND YET, few of these impacts will be seriously felt for another 50-100 years or more. Few of us in this room will be around to witness the really serious impacts of climate change. It will most profoundly affect those who are not yet born, those who are far away from here, and those who are of a very different demographic from us. Because of all of this, and human nature being what it is, it is particularly difficult to motivate people to take serious action on this. So I want to take a minute to acknowledge all of you for putting your time, professional talents and abilities to work on this effort, and Governor Gregoire and the legislature for heading this up.

There are times when it appropriate for government to merely manage and administrate, and there are times that call for true leadership. This is an issue that requires true leadership. Many other people around the world are doing great things. There’s no point in inventing new wheels, so we need to learn as much as we can about what they are doing and emulate those things that make sense for us. But it’s also early on in this effort. Washington is one of the leading states in this issue. We are being watched. This is an opportunity for us to make a name for ourselves and forge new leadership and develop innovative programs that others can learn from and emulate. The successful programs we come up with here will likely be multiplied many times, so it’s worth putting some extra effort into making them good. Whatever savings we calculate for Washington, we can perhaps multiply that times 2, 4, or 10 times to account for those who learn from us and implement those programs elsewhere.

So really, we’re on the cutting edge here. When you’re charting unknown territory, you are bound to make mistakes and solutions will be incomplete. Sometimes you will have to correct your course. Again, I commend the governor and all of you for your nearly heroic efforts to push this effort through in one year. There are lots of good reasons to do this. Doing this quickly demonstrates the urgency of this issue, and gets us started on solutions relatively quickly. However, as most of you already knew or are finding out, we are not going to solve this issue in one year. Sure, implement these and get started on solutions. I caution you, however, to not stop here. This is a good start, but we will need to continue this discussion for many years to come.

As great a job as you have done in your technical working groups, you are making some mistakes and there are some gaping holes in the solutions and even in the approach. Just the fact that all the working groups are “technical” shows some lack of appreciation for the breadth of this issue and the potential solutions. I encourage you to think of this not as the final solution, but as a great start. Let’s continue this conversation. This problem will be with us for many decades. The efforts to solve it should continue, too. I notice, for instance, that while you have 5 great **technical** working groups, you have no Education Working Groups, or Lifestyle Working Groups, or Tax Reform Working Groups. To use a gun analogy, we are using, perhaps not a .22, but probably a 3006, when what we need is a 12-gauge shotgun. Appointing only technical groups encourages the prevalent and dangerous notion that this is merely a technical problem that we can solve with merely technical solutions without changing anything about the way we live and consume. As I was listing out what I saw as the weaknesses of your proposals, I realized that most of the issues I came up with, not only are you not addressing, but you have no way of addressing them with the current structure that addresses only technical issues.

Before I mention any of those non-technical issues, let me comment on a couple of areas that do fit within the current Technical Working Groups (TWGs). I’d like to encourage you to give strong support to RCI-3, concerning improved community and land-use planning. I strongly support this issue and encourage you, again, to think beyond the technical issues. I know in these groups you will not be working out the details, but I encourage you to give directives to think beyond simply transportation distance and also think about how we want to live together as human beings to strengthen our communities and neighborhoods. There’s lots of good work about that out there, including the reurbanization movement and ecocities. And, while you are doing this, work with the Transportation TWG, who has the strongly related T-4. This is an example of thinking with win-win-win solutions. I also strongly support RCI-8, the Consumer Education and Labeling Program, but again would like to encourage you to expand and strengthen it to be more far-reaching. Encourage the development of Buy Local First programs such as what Sustainable Connections has done in Bellingham. Again, this is strong win-win-win solutions that has positive implications for climate change as well as many other community and state benefits, with few downsides.

The last issue that does, or should, fit within the Transportation TWG is that I notice with all your great thinking and solutions here concerning public transport and such, you have not really addressed directly much about our current main mode of transport – the private automobile. Most of you here have probably heard of Amory Lovins of the Rocky Mountain Institute. He has been an energy guru since the 70s. In a recent book called *Winning the Oil Endgame*, he has laid out a strategy based on good business sense and application of technology and policies that could get us almost completely off of oil by 2050. One of his big strategies is what he calls a feebate for cars. For each class of car, identify a level of fuel efficiency slightly above the median. If your car is below that, you pay a fee. If your car is above that, you get a rebate. His thought is to make this “revenue neutral” -- that is, the fees just cover the rebates and the costs of administering the program, so no net fee is collected.

Finally, three examples of policies that are really important, but do not fit neatly into any of the TWGs,

- First, Washington should join the Chicago Climate Exchange (<http://www.chicagoclimatex.com/>) -- and be the third state to do so.
- Second, implement a carbon tax. I propose to replace our sales tax with a carbon tax. Do it in stages. Take 2% off the sales tax each year for 4 years, and replace it with whatever level of carbon tax covers that. It could be levied at the wholesale level for fossil fuels. You only need to collect from a few people, so it’s relatively simple. Again,

the non-climate effect is almost as good as the climate effect. Why are we taxing purchases? It actually makes a lot more sense to tax fuel rather than everything we buy. Much simpler, too.

- And finally, education -- We're going to be at this for awhile. We need to think long term. Along with everything else we do, we need to start thinking about how to bring up kids to carry on where we leave off. Let's think about how to educate our college students on how to work with the technical, planning, and political aspects of this. Also high school. And think about fostering attitudes in kids that will help bring about the necessary lifestyle changes in the next generations.

Again, thank you for your time, your efforts, and your leadership. Keep up the good work.

## Document Appendix

---

The following materials were distributed to CAT members at the meeting (these materials can also be found on the Washington Climate Change website and at the links provided below).

November 15-16, 2007 CAT Meeting Agenda

([www.ecy.wa.gov/climatechange/CATdocs/11151607CATAgenda.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/11151607CATAgenda.pdf))

November 15-16, 2007 CAT Meeting Presentation

([www.ecy.wa.gov/climatechange/CATdocs/11151607CATPresentation.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/11151607CATPresentation.pdf))

Draft Matrix of CAT Mitigation Options

([www.ecy.wa.gov/climatechange/CATdocs/11151607matrix.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/11151607matrix.pdf))

Memo to CAT Re: Overview of Remaining CAT Work and Initial Draft Descriptions of Emerging Directional Recommendations, November 5, 2007

([www.ecy.wa.gov/climatechange/CATdocs/110507Memo.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/110507Memo.pdf))

Summary from Investment and Entrepreneurial Outreach Meeting, September 20, 2007

([www.ecy.wa.gov/climatechange/CATdocs/92007IESummary.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/92007IESummary.pdf))

Policy Option Description Documents for each TWG:

- Energy Supply TWG  
([www.ecy.wa.gov/climatechange/CATdocs/111507ENOptions.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/111507ENOptions.pdf))
  - Appendices  
([www.ecy.wa.gov/climatechange/CATdocs/111507ENOptions\\_cost\\_benefits.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/111507ENOptions_cost_benefits.pdf))
- Agriculture TWG  
([www.ecy.wa.gov/climatechange/TWGdocs/agr/111507WA\\_AW\\_Policy\\_Options\\_CATmtg.pdf](http://www.ecy.wa.gov/climatechange/TWGdocs/agr/111507WA_AW_Policy_Options_CATmtg.pdf))
- Forestry TWG  
([www.ecy.wa.gov/climatechange/CATdocs/111507FOROptions.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/111507FOROptions.pdf))
- Transportation TWG  
([www.ecy.wa.gov/climatechange/TWGdocs/tra/111507TransTWGMitigationOptions.pdf](http://www.ecy.wa.gov/climatechange/TWGdocs/tra/111507TransTWGMitigationOptions.pdf))
- Residential, Commercial & Industrial TWG  
([www.ecy.wa.gov/climatechange/CATdocs/111507RCIOptions.pdf](http://www.ecy.wa.gov/climatechange/CATdocs/111507RCIOptions.pdf))